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 <212> DNA  
 <213> Homo sapiens

<220>  
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<220>  
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 <223> n equals a,t,g, or c

<400> 6

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<220>  
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 <211> 2626  
 <212> DNA  
 <213> Homo sapiens

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 <212> DNA  
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<222> (1549)  
 <223> n equals a,t,g, or c

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 <212> DNA  
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 <223> n equals a,t,g, or c

<220>  
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<400> 11

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ataaaagggt	gcgcgtggga	gtgtgcccgg	atgatgtgga	caggaggaag	gagtacgtga	1320
ctttgtctcc	cgatcatggg	tactgggtcc	tcagactgaa	tggagaacat	ttgtatttca	1380
cattaaatcc	ccgttttatc	agcgtcttcc	ccaggacccc	acctacaaaa	ataggggtct	1440
tcctggacta	tgagtgtggg	accatctcct	tcttcaacat	aaatgaccag	tcccttattt	1500
ataccctgac	atgtcggttt	gaaggcttat	tgaggcccta	cattgagtat	ccgtcctata	1560
atgagcaaaa	tggaactccc	agagacaagc	aacagttagt	cctcctcaca	ggcaaccacg	1620
cccttcctcc	ccagggtgga	aatgtaggat	gaatcacatc	ccacattctt	ctttagggat	1680
attaaggtct	ctctcccaga	tccaaaagtc	cgcagcagcc	ggccaagggt	gcttccagat	1740
gaagggggac	tggcctgtcc	acatgggagt	caggtgtcat	ggctgcccct	agctgggagg	1800
gaagaaggct	gacattacat	ttagtttgct	ctcactccat	ctggctaagt	gatcttgaaa	1860
taccacctct	caggtgaaga	accgtcagga	attcccattc	cacaggctgt	ggtgtagatt	1920
aagtagacaa	ggaatgtgaa	taatgcttag	atcttattga	tgacagagt	tatcctaatt	1980
gtttgttcat	tatattacac	tttcagtaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaamc	2008
tcgagggggg	gccccgtacc	caattcgg				

<210> 13  
 <211> 2799  
 <212> DNA  
 <213> Homo sapiens

<400> 13						60
tgggacactg	tggaagccca	gagaatctga	tcccgggtcc	cacaacttca	catatcgcca	120
gtaagtggga	ggcaaagaaa	attctttttc	tctctttttg	ggacagtttg	tgactagtaa	180
tgccctgtgcc	cctggaaagg	ttggagactt	gggggacgac	tggagaattg	ccatttgagg	240
accaaaggag	aaaagaaact	acacgcta	tctagaaggc	ctcctgtccc	tgccctgctc	

gggtgctcat	ggaaccagct	gctgccttgc	acttctcccg	gccagcctcc	ctcctcctcc	300
tcctcagcct	gtgtgcactg	gtctcagccc	agtttactgt	cgtggggcca	gctaatacca	360
tcctggccat	ggtgggagaa	aacactacat	tacgttgcca	tctgtcaccg	gagaaaaatg	420
ctgaggacat	ggaggtgcgg	tggttccggt	ctcagttctc	ccccgcagtg	tttgtgtata	480
aggggtgggag	agagagaaca	gaggagcaga	tggaggagta	ccgggggaaga	atcacctttg	540
tgagcaaaga	catcaacagg	ggcagcgtgg	ccctggtcac	acataacgtc	acagcccagg	600
agaatgggat	ctaccgctgt	tacttccaag	aaggcaggtc	ctacgatgag	gccatcctac	660
gcctcgtggt	ggcaggcctt	gggtctaagc	ccctcattga	aatcaaggcc	caagaggatg	720
ggagcatctg	gctggagtgc	atatctggag	ggtggtaccc	agagcccctc	acagtgtgga	780
gggaccacct	cggtgaggtt	gtgcccgcgc	tgaaggaggt	ttccatcgct	gatgtgtacg	840
gcctcttcat	ggtcaccaca	gctgtgatca	tcagagacaa	gtatgtgagg	aatgtgtcct	900
gctctgtcaa	caacaccctg	ctcgccagag	agaaggaaac	tgatcatttt	attccagaat	960
cctttatgcc	cagcgcactc	ccctggatgg	tggccctagc	tgatcatcctg	accgcatctc	1020
cctggatggg	gtccatgact	gtcattcctg	ctgttttcat	catcttcatg	gctgtcagca	1080
tctgttgcac	caagaaaactt	caaagggaac	aaaagattct	gtcaggggaa	aagaaagtgt	1140
aacaagagga	aaaagaaatt	gcacagcaac	ttcaagaaga	attgcatgag	agaagaacat	1200
tcttacatgc	tgctgatgtg	gtcctggatc	cagacaccgc	tcaccccgag	ctcttcctgt	1260
cagaggaccg	gagaagtgtg	aggcggggcc	cctacaggca	gagagtgcct	gacaacccag	1320
agagattoga	cagtcagcct	tgtgtcctgg	gatgggagag	cttcgcctca	gggaaacatt	1380
acaggggaaa	cttcacagag	tggggaccca	ccagagccta	tagaatcaat	tccttggact	1440
cacagccatg	cagataagcc	ctggccatct	cagcagccac	cgacaaaccc	ccctaataga	1500
agacacgccc	tcctccccctc	tggtcacgta	agagaacatc	ttccagctgc	ctttttcaca	1560
cccactccag	ccctctgccc	cagttttctc	ctcctcacta	gtctgtggct	ttagtgttct	1620
ctttgcttgt	aattatggga	tgggatccag	gcataaggaa	ctagtgtgtt	catagctccc	1680
agtcaaaaag	aaagtggagag	aagctgttgg	gcagcgaacc	tactgtttta	aatcaggata	1740
accacattaa	gccaatatat	ccagttggca	ccagatgctg	tggacttgga	atgaggccaa	1800
cagggttcac	caggatgaga	gaggagagag	gaatccacag	gaccaccaga	aggagagggg	1860
aaccagatat	gcagatcaga	gatagaggaa	gtgttgagag	gaaaggggag	gtcctgctga	1920
ttcctcagaa	tggcttcttg	accctggaga	tgtttggaac	ccaataccgg	gccctgtcct	1980
cccctgagag	gatttctcct	ttgaaggagt	ccctttgccg	ggtgggcgtc	ttcctggact	2040
atgaagctgg	agatgtctcc	ttctacaaca	tgagggacag	atcacacatc	tacacatgtc	2100
cccgttcagc	ctttactgtg	cctgtgaggc	ccttcttcag	gttaggggtc	gatgacagcc	2160
ccatcttcat	ctgcccctgca	ctcacaggag	ccagtggggt	catgggtgcct	gaagagggcc	2220
tgaacttca	cagagtgggg	accaccaag	gttgtaaggg	atggctaagt	cccaccataa	2280
gagctaaagg	gtcctgggag	atgatggctc	atttccaccc	aacccagga	tttccacagc	2340
acacacccac	aggcctggac	ctgggatgaa	gatgaatgaa	gaacatggac	tcagtgtggat	2400
gtggtttggc	tcagatgtcc	ctgcaataaa	caaggggtca	gtacttagtc	cctgagtgtg	2460
gttgaggttt	gaggtccttg	tcgagcaggg	cagtactgga	ccaggtctac	gtcagcattc	2520
aggttcaatg	ggggacacca	gtggcttcaa	acttcttgat	ctaattatgt	ttttagacac	2580
ttagaagtta	ttgaggactt	taaaagaact	ttgtttatgt	gggttaatat	ttatgacatt	2640
tgaccattga	aacaaaaaatt	taaaatgtta	tcttttaatt	tatgttaaaa	tagcattaat	2700
aaatcagtta	taggttaatg	tagataggat	gttttgtgaa	aaagcaatct	attgtgtcca	2760
aataaaaaaa	caaaaagtgt	aaaaaaaaaa	aaaaaaaaaa			2799

<210> 14  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile Ile  
 1 5 10 15  
 Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly Ile Ser  
 20 25 30  
 Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala Gly Asn Ile  
 35 40 45

Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu  
 50 55 60  
 Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val Leu Gly Leu Val  
 65 70 75 80  
 His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu Gln Asp Glu Met  
 85 90 95  
 Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Ile Val Gly Asn  
 100 105 110  
 Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr  
 115 120 125  
 Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu  
 130 135 140  
 Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn Val Asp Tyr Asn  
 145 150 155 160  
 Ala Ser Ser Glu Thr Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln  
 165 170 175  
 Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser  
 180 185 190  
 Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met  
 195 200 205  
 Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser  
 210 215 220  
 Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val  
 225 230 235 240  
 Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn Ser  
 245 250 255  
 Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile Ser Trp Ala Leu  
 260 265 270  
 Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys  
 275 280

<210> 15  
 <211> 283  
 <212> PRT  
 <213> Homo sapiens

<400> 15  
 Met Ile Phe Leu Leu Leu Met Leu Ser Leu Glu Leu Gln Leu His Gln  
 1 5 10 15  
 Ile Ala Ala Leu Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile  
 20 25 30

Glu His Gly Ser Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser  
           35                          40                          45  
 His Val Asn Leu Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn  
           50                          55                          60  
 Asp Thr Ser Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu  
           65                          70                          75                          80  
 Pro Leu Gly Lys Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp  
                           85                          90                          95  
 Glu Gly Gln Tyr Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr  
                           100                          105                          110  
 Lys Tyr Leu Thr Leu Lys Val Lys Ala Ser Tyr Arg Lys Ile Asn Thr  
           115                          120                          125  
 His Ile Leu Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln  
           130                          135                          140  
 Ala Thr Gly Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val  
           145                          150                          155                          160  
 Pro Ala Asn Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val  
                           165                          170                          175  
 Thr Ser Val Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys  
                           180                          185                          190  
 Val Phe Trp Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp  
           195                          200                          205  
 Leu Gln Ser Gln Met Glu Pro Arg Thr His Pro Thr Trp Leu Leu His  
           210                          215                          220  
 Ile Phe Ile Pro Ser Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val  
           225                          230                          235                          240  
 Ile Ala Leu Arg Lys Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys Asp  
                           245                          250                          255  
 Thr Thr Lys Arg Pro Val Thr Thr Thr Lys Arg Glu Val Asn Ser Ala  
           260                          265                          270  
 Val Asn Leu Asn Leu Trp Ser Trp Glu Pro Gly  
           275                          280

<210> 16  
 <211> 318  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
 Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly Ser  
   1                          5                          10                          15  
 Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala Leu Val

20										25					30															
Gly	Glu	Asp	Ala	Ala	Phe	Ser	Cys	Phe	Leu	Ser	Pro	Lys	Thr	Asn	Ala															
		35					40					45																		
Glu	Ala	Met	Glu	Val	Arg	Phe	Phe	Arg	Gly	Gln	Phe	Ser	Ser	Val	Val															
	50					55					60																			
His	Leu	Tyr	Arg	Asp	Gly	Lys	Asp	Gln	Pro	Phe	Met	Gln	Met	Pro	Gln															
	65				70					75					80															
Tyr	Gln	Gly	Arg	Thr	Lys	Leu	Val	Lys	Asp	Ser	Ile	Ala	Glu	Gly	Arg															
				85					90					95																
Ile	Ser	Leu	Arg	Leu	Glu	Asn	Ile	Thr	Val	Leu	Asp	Ala	Gly	Leu	Tyr															
			100					105					110																	
Gly	Cys	Arg	Ile	Ser	Ser	Gln	Ser	Tyr	Tyr	Gln	Lys	Ala	Ile	Trp	Glu															
		115					120					125																		
Leu	Gln	Val	Ser	Ala	Leu	Gly	Ser	Val	Pro	Leu	Ile	Ser	Ile	Ala	Gly															
	130					135					140																			
Tyr	Val	Asp	Arg	Asp	Ile	Gln	Leu	Leu	Cys	Gln	Ser	Ser	Gly	Trp	Phe															
	145				150					155					160															
Pro	Arg	Pro	Thr	Ala	Lys	Trp	Lys	Gly	Pro	Gln	Gly	Gln	Asp	Leu	Ser															
				165					170					175																
Thr	Asp	Ser	Arg	Thr	Asn	Arg	Asp	Met	His	Gly	Leu	Phe	Asp	Val	Glu															
			180					185					190																	
Ile	Ser	Leu	Thr	Val	Gln	Glu	Asn	Ala	Gly	Ser	Ile	Ser	Cys	Ser	Met															
		195					200					205																		
Arg	His	Ala	His	Leu	Ser	Arg	Glu	Val	Glu	Ser	Arg	Val	Gln	Ile	Gly															
	210					215					220																			
Asp	Trp	Arg	Arg	Lys	His	Gly	Gln	Ala	Gly	Lys	Arg	Lys	Tyr	Ser	Ser															
	225				230					235				240																
Ser	His	Ile	Tyr	Asp	Ser	Phe	Pro	Ser	Leu	Ser	Phe	Met	Asp	Phe	Tyr															
				245					250					255																
Ile	Leu	Arg	Pro	Val	Gly	Pro	Cys	Arg	Ala	Lys	Leu	Val	Met	Gly	Thr															
		260					265						270																	
Leu	Lys	Leu	Gln	Ile	Leu	Gly	Glu	Val	His	Phe	Val	Glu	Lys	Pro	His															
	275						280					285																		
Ser	Leu	Leu	Gln	Ile	Ser	Gly	Gly	Ser	Thr	Thr	Leu	Lys	Lys	Gly	Pro															
	290					295					300																			
Asn	Pro	Trp	Ser	Phe	Pro	Ser	Pro	Cys	Ala	Leu	Phe	Pro	Thr																	
	305				310					315																				

<210> 17  
 <211> 454

<212> PRT  
 <213> Homo sapiens

<400> 17

Met	Glu	Pro	Ala	Ala	Ala	Leu	His	Phe	Ser	Arg	Pro	Ala	Ser	Leu	Leu	1	5	10	15
Leu	Leu	Leu	Ser	Leu	Cys	Ala	Leu	Val	Ser	Ala	Gln	Phe	Thr	Val	Val	20	25	30	
Gly	Pro	Ala	Asn	Pro	Ile	Leu	Ala	Met	Val	Gly	Glu	Asn	Thr	Thr	Leu	35	40	45	
Arg	Cys	His	Leu	Ser	Pro	Glu	Lys	Asn	Ala	Glu	Asp	Met	Glu	Val	Arg	50	55	60	
Trp	Phe	Arg	Ser	Gln	Phe	Ser	Pro	Ala	Val	Phe	Val	Tyr	Lys	Gly	Gly	65	70	75	80
Arg	Glu	Arg	Thr	Glu	Glu	Gln	Met	Glu	Glu	Tyr	Arg	Gly	Arg	Ile	Thr	85	90	95	
Phe	Val	Ser	Lys	Asp	Ile	Asn	Arg	Gly	Ser	Val	Ala	Leu	Val	Ile	His	100	105	110	
Asn	Val	Thr	Ala	Gln	Glu	Asn	Gly	Ile	Tyr	Arg	Cys	Tyr	Phe	Gln	Glu	115	120	125	
Gly	Arg	Ser	Tyr	Asp	Glu	Ala	Ile	Leu	Arg	Leu	Val	Val	Ala	Gly	Leu	130	135	140	
Gly	Ser	Lys	Pro	Leu	Ile	Glu	Ile	Lys	Ala	Gln	Glu	Asp	Gly	Ser	Ile	145	150	155	160
Trp	Leu	Glu	Cys	Ile	Ser	Gly	Gly	Trp	Tyr	Pro	Glu	Pro	Leu	Thr	Val	165	170	175	
Trp	Arg	Asp	Pro	Tyr	Gly	Glu	Val	Val	Pro	Ala	Leu	Lys	Glu	Val	Ser	180	185	190	
Ile	Ala	Asp	Ala	Asp	Gly	Leu	Phe	Met	Val	Thr	Thr	Ala	Val	Ile	Ile	195	200	205	
Arg	Asp	Lys	Tyr	Val	Arg	Asn	Val	Ser	Cys	Ser	Val	Asn	Asn	Thr	Leu	210	215	220	
Leu	Gly	Gln	Glu	Lys	Glu	Thr	Val	Ile	Phe	Ile	Pro	Glu	Ser	Phe	Met	225	230	235	240
Pro	Ser	Ala	Ser	Pro	Trp	Met	Val	Ala	Leu	Ala	Val	Ile	Leu	Thr	Ala	245	250	255	
Ser	Pro	Trp	Met	Val	Ser	Met	Thr	Val	Ile	Leu	Ala	Val	Phe	Ile	Ile	260	265	270	
Phe	Met	Ala	Val	Ser	Ile	Cys	Cys	Ile	Lys	Lys	Leu	Gln	Arg	Glu	Lys	275	280	285	

Lys Ile Leu Ser Gly Glu Lys Lys Val Glu Gln Glu Glu Lys Glu Ile  
 290 295 300  
 Ala Gln Gln Leu Gln Glu Glu Leu Arg Trp Arg Arg Thr Phe Leu His  
 305 310 315 320  
 Ala Ala Asp Val Val Leu Asp Pro Asp Thr Ala His Pro Glu Leu Phe  
 325 330 335  
 Leu Ser Glu Asp Arg Arg Ser Val Arg Arg Gly Pro Tyr Arg Gln Arg  
 340 345 350  
 Val Pro Asp Asn Pro Glu Arg Phe Asp Ser Gln Pro Cys Val Leu Gly  
 355 360 365  
 Trp Glu Ser Phe Ala Ser Gly Lys His Tyr Arg Gly Asn Phe Thr Glu  
 370 375 380  
 Trp Gly Pro Thr Arg Ala Tyr Arg Ile Asn Ser Leu Asp Ser Gln Pro  
 385 390 395 400  
 Cys Arg Lys Pro Trp Pro Ser Gln Gln Pro Pro His Asn Pro Pro Asn  
 405 410 415  
 Glu Arg His Ala Leu Leu Pro Ser Gly His Val Arg Glu His Leu Pro  
 420 425 430  
 Ala Ala Phe Phe Thr Pro Thr Pro Ala Leu Cys Pro Ser Phe Leu Leu  
 435 440 445  
 Leu Thr Ser Leu Trp Leu  
 450

<210> 18  
 <211> 414  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
 Met Arg Glu Ile Val Trp Tyr Arg Val Thr Asp Gly Gly Thr Ile Lys  
 1 5 10 15  
 Gln Lys Ile Phe Thr Phe Asp Ala Met Phe Ser Thr Asn Tyr Ser His  
 20 25 30  
 Met Glu Asn Tyr Arg Lys Arg Glu Asp Leu Val Tyr Gln Ser Thr Val  
 35 40 45  
 Arg Leu Pro Glu Val Arg Ile Ser Asp Asn Gly Pro Tyr Glu Cys His  
 50 55 60  
 Val Gly Ile Tyr Asp Arg Ala Thr Arg Glu Lys Val Val Leu Ala Ser  
 65 70 75 80  
 Gly Asn Ile Phe Leu Asn Val Met Ala Pro Pro Thr Ser Ile Glu Val  
 85 90 95



Val Ala Ala Asp Thr Pro Ala Pro Phe Ser Arg Tyr Gln Ala Gln Asn  
 100 105 110  
 Phe Thr Leu Val Cys Ile Val Ser Gly Gly Lys Pro Ala Pro Met Val  
 115 120 125  
 Tyr Phe Lys Arg Asp Gly Glu Pro Ile Asp Ala Val Pro Leu Ser Glu  
 130 135 140  
 Pro Pro Ala Ala Ser Ser Gly Pro Leu Gln Asp Ser Arg Pro Phe Arg  
 145 150 155 160  
 Ser Leu Leu His Arg Asp Leu Asp Asp Thr Lys Met Gln Lys Ser Leu  
 165 170 175  
 Ser Leu Leu Asp Ala Glu Asn Arg Gly Gly Arg Pro Tyr Thr Glu Arg  
 180 185 190  
 Pro Ser Arg Gly Leu Thr Pro Asp Pro Asn Ile Leu Leu Gln Pro Thr  
 195 200 205  
 Thr Glu Asn Ile Pro Glu Thr Val Val Ser Arg Glu Phe Pro Arg Trp  
 210 215 220  
 Val His Ser Ala Glu Pro Thr Tyr Phe Leu Arg His Ser Arg Thr Pro  
 225 230 235 240  
 Ser Ser Asp Gly Thr Val Glu Val Arg Ala Leu Leu Thr Trp Thr Leu  
 245 250 255  
 Asn Pro Gln Ile Asp Asn Glu Ala Leu Phe Ser Cys Glu Val Lys His  
 260 265 270  
 Pro Ala Leu Ser Met Pro Met Gln Ala Glu Val Thr Leu Val Ala Pro  
 275 280 285  
 Lys Gly Pro Lys Ile Val Met Thr Pro Ser Arg Ala Arg Val Gly Asp  
 290 295 300  
 Thr Val Arg Ile Leu Val His Gly Phe Gln Asn Glu Val Phe Pro Glu  
 305 310 315 320  
 Pro Met Phe Thr Trp Thr Arg Val Gly Ser Arg Leu Leu Asp Gly Ser  
 325 330 335  
 Ala Glu Phe Asp Gly Lys Glu Leu Val Leu Glu Arg Val Pro Ala Glu  
 340 345 350  
 Leu Asn Gly Ser Met Tyr Arg Cys Thr Ala Gln Asn Pro Leu Gly Ser  
 355 360 365  
 Thr Asp Thr His Thr Arg Leu Ile Val Phe Glu Asn Pro Asn Ile Pro  
 370 375 380  
 Arg Gly Thr Glu Asp Ser Asn Gly Ser Ile Gly Pro Thr Gly Ala Arg  
 385 390 395 400  
 Leu Thr Leu Val Leu Ala Leu Thr Val Ile Leu Glu Leu Thr  
 405 410

<210> 19  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 19  
 Met Glu Pro Ala Ala Ala Leu His Phe Ser Arg Pro Ala Ser Leu Leu  
 1 5 10 15  
 Leu Leu Leu Ser Leu Cys Ala Leu Val Ser Ala Gln Val Thr Val Val  
 20 25 30  
 Gly Pro Thr Asp Pro Ile Leu Ala Met Val Gly Glu Asn Thr Thr Leu  
 35 40 45  
 Arg Cys Cys Leu Ser Pro Glu Glu Asn Ala Glu Asp Met Glu Val Arg  
 50 55 60  
 Trp Phe Gln Ser Gln Phe Ser Pro Ala Val Phe Val Tyr Lys Gly Gly  
 65 70 75 80  
 Arg Glu Arg Thr Glu Glu Gln Lys Glu Glu Tyr Arg Gly Arg Thr Thr  
 85 90 95  
 Phe Val Ser Lys Asp Ser Arg Gly Ser Val Ala Leu Ile Ile His Asn  
 100 105 110  
 Val Thr Ala Glu Asp Asn Gly Ile Tyr Gln Cys Tyr Phe Gln Glu Gly  
 115 120 125  
 Arg Ser Cys Asn Glu Ala Ile Leu His Leu Val Val Ala Asp Gln His  
 130 135 140  
 Asn Pro Leu Ser Trp Ile Pro Ile Pro Gln Gly Thr Leu Ser Leu  
 145 150 155

<210> 20  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly Ser  
 1 5 10 15  
 Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala Leu Val  
 20 25 30  
 Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys Thr Asn Ala  
 35 40 45  
 Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe Ser Ser Val Val  
 50 55 60  
 His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe Met Gln Met Pro Gln  
 65 70 75 80

Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp Ser Ile Ala Glu Gly Arg  
 85 90 95  
 Ile Ser Leu Arg Leu Glu Asn Ile Thr Val Leu Asp Ala Gly Leu Tyr  
 100 105 110  
 Gly Cys Arg Ile Ser Ser Gln Ser Tyr Tyr Gln Lys Ala Ile Trp Glu  
 115 120 125  
 Leu Gln Val Ser Ala Leu Gly Ser Val Pro Leu Ile Ser Ile Thr Gly  
 130 135 140  
 Tyr Val Asp Arg Asp Ile Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe  
 145 150 155 160  
 Pro Arg Pro Thr Ala Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser  
 165 170 175  
 Thr Asp Ser Arg Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu  
 180 185 190  
 Ile Ser Leu Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met  
 195 200 205  
 Arg His Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly  
 210 215 220  
 Asp Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu  
 225 230 235 240  
 Gly Ile Leu Cys Cys Gly Leu Phe Phe Gly Ile Val Gly Leu Lys Ile  
 245 250 255  
 Phe Phe Ser Lys Phe Gln Trp Lys Ile Gln Ala Glu Leu Asp Trp Arg  
 260 265 270  
 Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys His Ala Val  
 275 280 285  
 Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys Leu Cys Val Ser  
 290 295 300  
 Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro Gln Glu Val Pro His  
 305 310 315 320  
 Ser Glu Lys Arg Phe Thr Arg Lys Ser Val Val Ala Ser Gln Ser Phe  
 325 330 335  
 Gln Ala Gly Lys His Tyr Trp Glu Val Asp Gly Gly His Asn Lys Arg  
 340 345 350  
 Trp Arg Val Gly Val Cys Arg Asp Asp Val Asp Arg Arg Lys Glu Tyr  
 355 360 365  
 Val Thr Leu Ser Pro Asp His Gly Tyr Trp Val Leu Arg Leu Asn Gly  
 370 375 380

Glu His Leu Tyr Phe Thr Leu Asn Pro Arg Phe Ile Ser Val Phe Pro  
 385 390 395 400

Arg Thr Pro Pro Thr Lys Ile Gly Val Phe Leu Asp Tyr Glu Cys Gly  
 405 410 415

Thr Ile Ser Phe Phe Asn Ile Asn Asp Gln Ser Leu Ile Tyr Thr Leu  
 420 425 430

Thr Cys Arg Phe Glu Gly Leu Leu Arg Pro Tyr Ile Glu Tyr Pro Ser  
 435 440 445

Tyr Asn Glu Gln Asn Gly Thr Pro Arg Asp Lys Gln Gln  
 450 455 460

<210> 21  
 <211> 13  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile  
 1 5 10

<210> 22  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Leu Phe Leu Leu Leu Glu Ile Ser Thr His Leu Cys Phe Trp Lys Ser  
 1 5 10 15

Leu Arg Lys Leu Glu Gly Lys  
 20

<210> 23  
 <211> 93  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (89)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (92)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 23  
 Met Ile Phe Leu Leu Leu Met Leu Ser Leu Glu Leu Gln Leu His Gln  
 1 5 10 15

Ile Ala Ala Leu Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile  
 . 20 25 30  
 Glu His Gly Ser Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser  
 35 40 45  
 His Val Asn Leu Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn  
 50 55 60  
 Asp Thr Ser Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu  
 65 70 75 80  
 Pro Leu Gly Lys Ala Ser Phe Pro Xaa Leu Lys Xaa Lys  
 85 90

<210> 24  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (234)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (236)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 24  
 Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly Ser  
 1 5 10 15  
 Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala Leu Val  
 20 25 30  
 Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys Thr Asn Ala  
 35 40 45  
 Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe Ser Ser Val Val  
 50 55 60  
 His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe Met Gln Met Pro Gln  
 65 70 75 80  
 Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp Ser Ile Ala Glu Gly Arg  
 85 90 95  
 Ile Ser Leu Arg Leu Glu Asn Ile Thr Val Leu Asp Ala Gly Leu Tyr  
 100 105 110  
 Gly Cys Arg Ile Ser Ser Gln Ser Tyr Tyr Gln Lys Ala Ile Trp Glu  
 115 120 125  
 Leu Gln Val Ser Ala Leu Gly Ser Val Pro Leu Ile Ser Ile Thr Gly  
 130 135 140

Tyr	Val	Asp	Arg	Asp	Ile	Gln	Leu	Leu	Cys	Gln	Ser	Ser	Gly	Trp	Phe	145	150	155	160
Pro	Arg	Pro	Thr	Ala	Lys	Trp	Lys	Gly	Pro	Gln	Gly	Gln	Asp	Leu	Ser	165	170		175
Thr	Asp	Ser	Arg	Thr	Asn	Arg	Asp	Met	His	Gly	Leu	Phe	Asp	Val	Glu	180	185	190	
Ile	Ser	Leu	Thr	Val	Gln	Glu	Asn	Ala	Gly	Ser	Ile	Ser	Cys	Ser	Met	195	200	205	
Arg	His	Ala	His	Leu	Ser	Arg	Glu	Val	Glu	Ser	Arg	Val	Gln	Ile	Gly	210	215	220	
Asp	Thr	Phe	Phe	Glu	Pro	Ile	Ser	Trp	Xaa	Leu	Xaa	Thr	Lys	Val	Leu	225	230	235	240
Gly	Ile	Leu	Cys	Cys	Gly	Leu	Phe	Phe	Gly	Ile	Val	Gly	Leu	Lys	Ile	245	250	255	
Phe	Phe	Ser	Lys	Phe	Gln	Trp	Lys	Ile	Gln	Ala	Glu	Leu	Asp	Trp	Arg	260	265	270	
Arg	Lys	His	Gly	Gln	Ala	Glu	Leu	Arg	Asp	Ala	Arg	Lys	His	Ala	Val	275	280	285	
Glu	Val	Thr	Leu	Asp	Pro	Glu	Thr	Ala	His	Pro	Lys	Leu	Cys	Val	Ser	290	295	300	
Asp	Leu	Lys	Thr	Val	Thr	His	Arg	Lys	Ala	Pro	Gln	Glu	Val	Pro	His	305	310	315	320
Ser	Glu	Lys	Arg	Phe	Thr	Arg	Lys	Ser	Val	Val	Ala	Ser	Gln	Ser	Phe	325	330	335	
Gln	Ala	Gly	Lys	His	Tyr	Trp	Glu	Val	Asp	Gly	Gly	His	Asn	Lys	Arg	340	345	350	
Trp	Arg	Val	Gly	Val	Cys	Arg	Asp	Asp	Val	Asp	Arg	Arg	Lys	Glu	Tyr	355	360	365	
Val	Thr	Leu	Ser	Pro	Asp	His	Gly	Tyr	Trp	Val	Leu	Arg	Leu	Asn	Gly	370	375	380	
Glu	His	Leu	Tyr	Phe	Thr	Leu	Asn	Pro	Arg	Phe	Ile	Ser	Val	Phe	Pro	385	390	395	400
Arg	Thr	Pro	Pro	Thr	Lys	Ile	Gly	Val	Phe	Leu	Asp	Tyr	Glu	Cys	Gly	405	410	415	
Thr	Ile	Ser	Phe	Phe	Asn	Ile	Asn	Asp	Gln	Ser	Leu	Ile	Tyr	Thr	Leu	420	425	430	
Thr	Cys	Arg	Phe	Glu	Gly	Leu	Leu	Arg	Pro	Tyr	Ile	Glu	Tyr	Pro	Ser	435	440	445	
Tyr	Asn	Glu	Gln	Asn	Gly	Thr	Pro	Arg	Asp	Lys	Gln	Gln				450	455	460	

<210> 25  
 <211> 402  
 <212> PRT  
 <213> Homo sapiens

<400> 25  
 Met Glu Pro Ala Ala Ala Leu His Phe Ser Arg Pro Ala Ser Leu Leu  
   1                  5                  10                  15  
 Leu Leu Leu Ser Leu Cys Ala Leu Val Ser Ala Gln Phe Thr Val Val  
           20                  25                  30  
 Gly Pro Ala Asn Pro Ile Leu Ala Met Val Gly Glu Asn Thr Thr Leu  
           35                  40                  45  
 Arg Cys His Leu Ser Pro Glu Lys Asn Ala Glu Asp Met Glu Val Arg  
           50                  55                  60  
 Trp Phe Arg Ser Gln Phe Ser Pro Ala Val Phe Val Tyr Lys Gly Gly  
   65                  70                  75                  80  
 Arg Glu Arg Thr Glu Glu Gln Met Glu Glu Tyr Arg Gly Arg Ile Thr  
                   85                  90                  95  
 Phe Val Ser Lys Asp Ile Asn Arg Gly Ser Val Ala Leu Val Ile His  
           100                  105                  110  
 Asn Val Thr Ala Gln Glu Asn Gly Ile Tyr Arg Cys Tyr Phe Gln Glu  
           115                  120                  125  
 Gly Arg Ser Tyr Asp Glu Ala Ile Leu Arg Leu Val Val Ala Gly Leu  
   130                  135                  140  
 Gly Ser Lys Pro Leu Ile Glu Ile Lys Ala Gln Glu Asp Gly Ser Ile  
   145                  150                  155                  160  
 Trp Leu Glu Cys Ile Ser Gly Gly Trp Tyr Pro Glu Pro Leu Thr Val  
           165                  170                  175  
 Trp Arg Asp Pro Tyr Gly Glu Val Val Pro Ala Leu Lys Glu Val Ser  
           180                  185                  190  
 Ile Ala Asp Ala Asp Gly Leu Phe Met Val Thr Thr Ala Val Ile Ile  
           195                  200                  205  
 Arg Asp Lys Tyr Val Arg Asn Val Ser Cys Ser Val Asn Asn Thr Leu  
   210                  215                  220  
 Leu Gly Gln Glu Lys Glu Thr Val Ile Phe Ile Pro Glu Ser Phe Met  
   225                  230                  235                  240  
 Pro Ser Ala Ser Pro Trp Met Val Ala Leu Ala Val Ile Leu Thr Ala  
           245                  250                  255  
 Ser Pro Trp Met Val Ser Met Thr Val Ile Leu Ala Val Phe Ile Ile  
           260                  265                  270

Phe Met Ala Val Ser Ile Cys Cys Ile Lys Lys Leu Gln Arg Glu Lys  
 275 280 285

Lys Ile Leu Ser Gly Glu Lys Lys Val Glu Gln Glu Glu Lys Glu Ile  
 290 295 300

Ala Gln Gln Leu Gln Glu Glu Leu Arg Trp Arg Arg Thr Phe Leu His  
 305 310 315 320

Ala Ala Asp Val Val Leu Asp Pro Asp Thr Ala His Pro Glu Leu Phe  
 325 330 335

Leu Ser Glu Asp Arg Arg Ser Val Arg Arg Gly Pro Tyr Arg Gln Arg  
 340 345 350

Val Pro Asp Asn Pro Glu Arg Phe Asp Ser Gln Pro Cys Val Leu Gly  
 355 360 365

Trp Glu Ser Phe Ala Ser Gly Lys His Tyr Arg Gly Asn Phe Thr Glu  
 370 375 380

Trp Gly Pro Thr Arg Ala Tyr Arg Ile Asn Ser Leu Asp Ser Gln Pro  
 385 390 395 400

Cys Arg

<210> 26  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
 Ser Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile Ser Trp Ala  
 1 5 10 15

Leu Leu Pro Leu  
 20

<210> 27  
 <211> 255  
 <212> PRT  
 <213> Homo sapiens

<400> 27  
 Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile Ile  
 1 5 10 15

Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly Ile Ser  
 20 25 30

Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala Gly Asn Ile  
 35 40 45

Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu  
 50 55 60



Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val Leu Gly Leu Val  
 65 70 75 80  
 His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu Gln Asp Glu Met  
 85 90 95  
 Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Ile Val Gly Asn  
 100 105 110  
 Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr  
 115 120 125  
 Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu  
 130 135 140  
 Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn Val Asp Tyr Asn  
 145 150 155 160  
 Ala Ser Ser Glu Thr Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln  
 165 170 175  
 Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser  
 180 185 190  
 Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met  
 195 200 205  
 Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser  
 210 215 220  
 Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val  
 225 230 235 240  
 Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn  
 245 250 255  
 <210> 28  
 <211> 231  
 <212> PRT  
 <213> Homo sapiens  
 <400> 28  
 Leu Ile Ile Gly Phe Gly Ile Ser Gly Arg His Ser Ile Thr Val Thr  
 1 5 10 15  
 Thr Val Ala Ser Ala Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys  
 20 25 30  
 Thr Phe Glu Pro Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu  
 35 40 45  
 Lys Glu Gly Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp  
 50 55 60  
 Glu Leu Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe  
 65 70 75 80

Ala Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val  
85 90 95

Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser Lys  
100 105 110

Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe Ser Met  
115 120 125

Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr Leu Arg Cys  
130 135 140

Glu Ala Pro Arg Trp Phe Pro Gln Pro Thr Val Val Trp Ala Ser Gln  
145 150 155 160

Val Asp Gln Gly Ala Asn Phe Ser Glu Val Ser Asn Thr Ser Phe Glu  
165 170 175

Leu Asn Ser Glu Asn Val Thr Met Lys Val Val Ser Val Leu Tyr Asn  
180 185 190

Val Thr Ile Asn Asn Thr Tyr Ser Cys Met Ile Glu Asn Asp Ile Ala  
195 200 205

Lys Ala Thr Gly Asp Ile Lys Val Thr Glu Ser Glu Ile Lys Arg Arg  
210 215 220

Ser His Leu Gln Leu Leu Asn  
225 230

<210> 29

<211> 24

<212> PRT

<213> Homo sapiens

<400> 29

Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile Ile  
1 5 10 15

Ile Ile Leu Ala Gly Ala Ile Ala  
20

<210> 30

<211> 30

<212> PRT

<213> Homo sapiens

<400> 30

Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser Cys Ile Ile Ala Phe  
1 5 10 15

Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys Gln Leu Cys  
20 25 30

<210> 31  
 <211> 218  
 <212> PRT  
 <213> Homo sapiens

<400> 31  
 Met Ile Phe Leu Leu Leu Met Leu Ser Leu Glu Leu Gln Leu His Gln  
     1                    5                    10                    15  
 Ile Ala Ala Leu Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile  
                     20                    25                    30  
 Glu His Gly Ser Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser  
                     35                    40                    45  
 His Val Asn Leu Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn  
                     50                    55                    60  
 Asp Thr Ser Pro His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu  
                     65                    70                    75                    80  
 Pro Leu Gly Lys Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp  
                     85                    90                    95  
 Glu Gly Gln Tyr Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr  
                     100                    105                    110  
 Lys Tyr Leu Thr Leu Lys Val Lys Ala Ser Tyr Arg Lys Ile Asn Thr  
                     115                    120                    125  
 His Ile Leu Lys Val Pro Glu Thr Asp Glu Val Glu Leu Thr Cys Gln  
                     130                    135                    140  
 Ala Thr Gly Tyr Pro Leu Ala Glu Val Ser Trp Pro Asn Val Ser Val  
                     145                    150                    155                    160  
 Pro Ala Asn Thr Ser His Ser Arg Thr Pro Glu Gly Leu Tyr Gln Val  
                     165                    170                    175  
 Thr Ser Val Leu Arg Leu Lys Pro Pro Pro Gly Arg Asn Phe Ser Cys  
                     180                    185                    190  
 Val Phe Trp Asn Thr His Val Arg Glu Leu Thr Leu Ala Ser Ile Asp  
                     195                    200                    205  
 Leu Gln Ser Gln Met Glu Pro Arg Thr His  
                     210                    215

<210> 32  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
 Leu Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly  
     1                    5                    10                    15  
 Ser Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn



20 25 30  
 Gln Lys Val Glu Asn Asp Thr Ser Pro His Arg Glu Arg Ala Thr Leu  
 35 40 45  
 Leu Glu Glu Gln Leu Pro Leu Gly Lys Ala Ser Phe His Ile Pro Gln  
 50 55 60  
 Val Gln Val Arg Asp Glu Gly Gln Tyr Gln Cys Ile Ile Ile Tyr Gly  
 65 70 75 80  
 Val Ala Trp Asp Tyr Lys Tyr Leu Thr Leu Lys Val Lys  
 85 90

<210> 35  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

<400> 35  
 Ser Tyr Arg Lys Ile Asn Thr His Ile Leu Lys Val Pro Glu Thr Asp  
 1 5 10 15  
 Glu Val Glu Leu Thr Cys Gln Ala Thr Gly Tyr Pro Leu Ala Glu Val  
 20 25 30  
 Ser Trp Pro Asn Val Ser Val Pro Ala Asn Thr Ser His Ser Arg Thr  
 35 40 45  
 Pro Glu Gly Leu Tyr Gln Val Thr Ser Val Leu Arg Leu Lys Pro Pro  
 50 55 60  
 Pro Gly Arg Asn Phe Ser Cys Val Phe Trp Asn Thr His Val Arg Glu  
 65 70 75 80  
 Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser Gln Met Glu Pro  
 85 90

<210> 36  
 <211> 301  
 <212> PRT  
 <213> Homo sapiens

<400> 36  
 Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala Leu Val Gly  
 1 5 10 15  
 Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys Thr Asn Ala Glu  
 20 25 30  
 Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe Ser Ser Val Val His  
 35 40 45  
 Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe Met Gln Met Pro Gln Tyr  
 50 55 60

Gln Gly Arg Thr Lys Leu Val Lys Asp Ser Ile Ala Glu Gly Arg Ile  
 65 70 75 80  
 Ser Leu Arg Leu Glu Asn Ile Thr Val Leu Asp Ala Gly Leu Tyr Gly  
 85 90 95  
 Cys Arg Ile Ser Ser Gln Ser Tyr Tyr Gln Lys Ala Ile Trp Glu Leu  
 100 105 110  
 Gln Val Ser Ala Leu Gly Ser Val Pro Leu Ile Ser Ile Ala Gly Tyr  
 115 120 125  
 Val Asp Arg Asp Ile Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro  
 130 135 140  
 Arg Pro Thr Ala Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr  
 145 150 155 160  
 Asp Ser Arg Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile  
 165 170 175  
 Ser Leu Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg  
 180 185 190  
 His Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp  
 195 200 205  
 Trp Arg Arg Lys His Gly Gln Ala Gly Lys Arg Lys Tyr Ser Ser Ser  
 210 215 220  
 His Ile Tyr Asp Ser Phe Pro Ser Leu Ser Phe Met Asp Phe Tyr Ile  
 225 230 235 240  
 Leu Arg Pro Val Gly Pro Cys Arg Ala Lys Leu Val Met Gly Thr Leu  
 245 250 255  
 Lys Leu Gln Ile Leu Gly Glu Val His Phe Val Glu Lys Pro His Ser  
 260 265 270  
 Leu Leu Gln Ile Ser Gly Gly Ser Thr Thr Leu Lys Lys Gly Pro Asn  
 275 280 285  
 Pro Trp Ser Phe Pro Ser Pro Cys Ala Leu Phe Pro Thr  
 290 295 300

<210> 37

<211> 17

<212> PRT

<213> Homo sapiens

<400> 37

Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly Ser  
 1 5 10 15

Gly

<210> 38  
 <211> 26  
 <212> PRT  
 <213> Homo sapiens

<400> 38  
 Thr Ala Ser Pro Trp Met Val Ser Met Thr Val Ile Leu Ala Val Phe  
     1                    5                    10                    15  
  
 Ile Ile Phe Met Ala Val Ser Ile Cys Cys  
           20                    25

<210> 39  
 <211> 254  
 <212> PRT  
 <213> Homo sapiens

<400> 39  
 Met Glu Pro Ala Ala Ala Leu His Phe Ser Arg Pro Ala Ser Leu Leu  
     1                    5                    10                    15  
  
 Leu Leu Leu Ser Leu Cys Ala Leu Val Ser Ala Gln Phe Thr Val Val  
           20                    25                    30  
  
 Gly Pro Ala Asn Pro Ile Leu Ala Met Val Gly Glu Asn Thr Thr Leu  
           35                    40                    45  
  
 Arg Cys His Leu Ser Pro Glu Lys Asn Ala Glu Asp Met Glu Val Arg  
     50                    55                    60  
  
 Trp Phe Arg Ser Gln Phe Ser Pro Ala Val Phe Val Tyr Lys Gly Gly  
     65                    70                    75                    80  
  
 Arg Glu Arg Thr Glu Glu Gln Met Glu Glu Tyr Arg Gly Arg Ile Thr  
           85                    90                    95  
  
 Phe Val Ser Lys Asp Ile Asn Arg Gly Ser Val Ala Leu Val Ile His  
           100                    105                    110  
  
 Asn Val Thr Ala Gln Glu Asn Gly Ile Tyr Arg Cys Tyr Phe Gln Glu  
     115                    120                    125  
  
 Gly Arg Ser Tyr Asp Glu Ala Ile Leu Arg Leu Val Val Ala Gly Leu  
     130                    135                    140  
  
 Gly Ser Lys Pro Leu Ile Glu Ile Lys Ala Gln Glu Asp Gly Ser Ile  
     145                    150                    155                    160  
  
 Trp Leu Glu Cys Ile Ser Gly Gly Trp Tyr Pro Glu Pro Leu Thr Val  
           165                    170                    175  
  
 Trp Arg Asp Pro Tyr Gly Glu Val Val Pro Ala Leu Lys Glu Val Ser  
     180                    185                    190  
  
 Ile Ala Asp Ala Asp Gly Leu Phe Met Val Thr Thr Ala Val Ile Ile  
     195                    200                    205

Arg Asp Lys Tyr Val Arg Asn Val Ser Cys Ser Val Asn Asn Thr Leu  
210 215 220

Leu Gly Gln Glu Lys Glu Thr Val Ile Phe Ile Pro Glu Ser Phe Met  
225 230 235 240

Pro Ser Ala Ser Pro Trp Met Val Ala Leu Ala Val Ile Leu  
245 250

<210> 40  
<211> 227  
<212> PRT  
<213> Homo sapiens

<400> 40  
Gln Phe Thr Val Val Gly Pro Ala Asn Pro Ile Leu Ala Met Val Gly  
1 5 10 15

Glu Asn Thr Thr Leu Arg Cys His Leu Ser Pro Glu Lys Asn Ala Glu  
20 25 30

Asp Met Glu Val Arg Trp Phe Arg Ser Gln Phe Ser Pro Ala Val Phe  
35 40 45

Val Tyr Lys Gly Gly Arg Glu Arg Thr Glu Glu Gln Met Glu Glu Tyr  
50 55 60

Arg Gly Arg Ile Thr Phe Val Ser Lys Asp Ile Asn Arg Gly Ser Val  
65 70 75 80

Ala Leu Val Ile His Asn Val Thr Ala Gln Glu Asn Gly Ile Tyr Arg  
85 90 95

Cys Tyr Phe Gln Glu Gly Arg Ser Tyr Asp Glu Ala Ile Leu Arg Leu  
100 105 110

Val Val Ala Gly Leu Gly Ser Lys Pro Leu Ile Glu Ile Lys Ala Gln  
115 120 125

Glu Asp Gly Ser Ile Trp Leu Glu Cys Ile Ser Gly Gly Trp Tyr Pro  
130 135 140

Glu Pro Leu Thr Val Trp Arg Asp Pro Tyr Gly Glu Val Val Pro Ala  
145 150 155 160

Leu Lys Glu Val Ser Ile Ala Asp Ala Asp Gly Leu Phe Met Val Thr  
165 170 175

Thr Ala Val Ile Ile Arg Asp Lys Tyr Val Arg Asn Val Ser Cys Ser  
180 185 190

Val Asn Asn Thr Leu Leu Gly Gln Glu Lys Glu Thr Val Ile Phe Ile  
195 200 205

Pro Glu Ser Phe Met Pro Ser Ala Ser Pro Trp Met Val Ala Leu Ala  
210 215 220



Val Ile Leu  
225

<210> 41  
<211> 27  
<212> PRT  
<213> Homo sapiens

<400> 41  
Met Glu Pro Ala Ala Ala Leu His Phe Ser Arg Pro Ala Ser Leu Leu  
1 5 10 15

Leu Leu Leu Ser Leu Cys Ala Leu Val Ser Ala  
20 25

<210> 42  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 42  
Gly Pro Thr Gly Ala Arg Leu Thr Leu Val Leu Ala Leu Thr Val Ile  
1 5 10 15

Leu Glu Leu Thr  
20

<210> 43  
<211> 394  
<212> PRT  
<213> Homo sapiens

<400> 43  
Met Arg Glu Ile Val Trp Tyr Arg Val Thr Asp Gly Gly Thr Ile Lys  
1 5 10 15

Gln Lys Ile Phe Thr Phe Asp Ala Met Phe Ser Thr Asn Tyr Ser His  
20 25 30

Met Glu Asn Tyr Arg Lys Arg Glu Asp Leu Val Tyr Gln Ser Thr Val  
35 40 45

Arg Leu Pro Glu Val Arg Ile Ser Asp Asn Gly Pro Tyr Glu Cys His  
50 55 60

Val Gly Ile Tyr Asp Arg Ala Thr Arg Glu Lys Val Val Leu Ala Ser  
65 70 75 80

Gly Asn Ile Phe Leu Asn Val Met Ala Pro Pro Thr Ser Ile Glu Val  
85 90 95

Val Ala Ala Asp Thr Pro Ala Pro Phe Ser Arg Tyr Gln Ala Gln Asn  
100 105 110

Phe Thr Leu Val Cys Ile Val Ser Gly Gly Lys Pro Ala Pro Met Val  
115 120 125

Tyr Phe Lys Arg Asp Gly Glu Pro Ile Asp Ala Val Pro Leu Ser Glu  
130 135 140  
Pro Pro Ala Ala Ser Ser Gly Pro Leu Gln Asp Ser Arg Pro Phe Arg  
145 150 155 160  
Ser Leu Leu His Arg Asp Leu Asp Asp Thr Lys Met Gln Lys Ser Leu  
165 170 175  
Ser Leu Leu Asp Ala Glu Asn Arg Gly Gly Arg Pro Tyr Thr Glu Arg  
180 185 190  
Pro Ser Arg Gly Leu Thr Pro Asp Pro Asn Ile Leu Leu Gln Pro Thr  
195 200 205  
Thr Glu Asn Ile Pro Glu Thr Val Val Ser Arg Glu Phe Pro Arg Trp  
210 215 220  
Val His Ser Ala Glu Pro Thr Tyr Phe Leu Arg His Ser Arg Thr Pro  
225 230 235 240  
Ser Ser Asp Gly Thr Val Glu Val Arg Ala Leu Leu Thr Trp Thr Leu  
245 250 255  
Asn Pro Gln Ile Asp Asn Glu Ala Leu Phe Ser Cys Glu Val Lys His  
260 265 270  
Pro Ala Leu Ser Met Pro Met Gln Ala Glu Val Thr Leu Val Ala Pro  
275 280 285  
Lys Gly Pro Lys Ile Val Met Thr Pro Ser Arg Ala Arg Val Gly Asp  
290 295 300  
Thr Val Arg Ile Leu Val His Gly Phe Gln Asn Glu Val Phe Pro Glu  
305 310 315 320  
Pro Met Phe Thr Trp Thr Arg Val Gly Ser Arg Leu Leu Asp Gly Ser  
325 330 335  
Ala Glu Phe Asp Gly Lys Glu Leu Val Leu Glu Arg Val Pro Ala Glu  
340 345 350  
Leu Asn Gly Ser Met Tyr Arg Cys Thr Ala Gln Asn Pro Leu Gly Ser  
355 360 365  
Thr Asp Thr His Thr Arg Leu Ile Val Phe Glu Asn Pro Asn Ile Pro  
370 375 380  
Arg Gly Thr Glu Asp Ser Asn Gly Ser Ile  
385 390

<210> 44  
<211> 132  
<212> PRT  
<213> Homo sapiens

<400> 44

Gln Val Thr Val Val Gly Pro Thr Asp Pro Ile Leu Ala Met Val Gly  
 1 5 10 15  
 Glu Asn Thr Thr Leu Arg Cys Cys Leu Ser Pro Glu Glu Asn Ala Glu  
 20 25 30  
 Asp Met Glu Val Arg Trp Phe Gln Ser Gln Phe Ser Pro Ala Val Phe  
 35 40 45  
 Val Tyr Lys Gly Gly Arg Glu Arg Thr Glu Glu Gln Lys Glu Glu Tyr  
 50 55 60  
 Arg Gly Arg Thr Thr Phe Val Ser Lys Asp Ser Arg Gly Ser Val Ala  
 65 70 75 80  
 Leu Ile Ile His Asn Val Thr Ala Glu Asp Asn Gly Ile Tyr Gln Cys  
 85 90 95  
 Tyr Phe Gln Glu Gly Arg Ser Cys Asn Glu Ala Ile Leu His Leu Val  
 100 105 110  
 Val Ala Asp Gln His Asn Pro Leu Ser Trp Ile Pro Ile Pro Gln Gly  
 115 120 125  
 Thr Leu Ser Leu  
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<210> 45  
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 <212> PRT  
 <213> Homo sapiens

<400> 45  
 Met Glu Pro Ala Ala Ala Leu His Phe Ser Arg Pro Ala Ser Leu Leu  
 1 5 10 15  
 Leu Leu Leu Ser Leu Cys Ala Leu Val Ser Ala  
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<210> 46  
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 <213> Homo sapiens

<400> 46  
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 1 5 10

<210> 47  
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 <213> Homo sapiens

<400> 47  
 Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly Ser  
 1 5 10 15

Gly

<210> 48  
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<212> PRT  
<213> Homo sapiens

<400> 48

Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly Ser  
1 5 10 15

Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala Leu Val  
20 25 30

Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys Thr Asn Ala  
35 40 45

Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe Ser Ser Val Val  
50 55 60

His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe Met Gln Met Pro Gln  
65 70 75 80

Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp Ser Ile Ala Glu Gly Arg  
85 90 95

Ile Ser Leu Arg Leu Glu Asn Ile Thr Val Leu Asp Ala Gly Leu Tyr  
100 105 110

Gly Cys Arg Ile Ser Ser Gln Ser Tyr Tyr Gln Lys Ala Ile Trp Glu  
115 120 125

Leu Gln Val Ser Ala Leu Gly Ser Val Pro Leu Ile Ser Ile Thr Gly  
130 135 140

Tyr Val Asp Arg Asp Ile Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe  
145 150 155 160

Pro Arg Pro Thr Ala Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser  
165 170 175

Thr Asp Ser Arg Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu  
180 185 190

Ile Ser Leu Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met  
195 200 205

Arg His Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly  
210 215 220

Asp Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val  
225 230 235

<210> 49  
<211> 222

<212> PRT

<213> Homo sapiens

<400> 49

Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala Leu Val Gly  
1 5 10 15  
Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys Thr Asn Ala Glu  
20 25 30  
Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe Ser Ser Val Val His  
35 40 45  
Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe Met Gln Met Pro Gln Tyr  
50 55 60  
Gln Gly Arg Thr Lys Leu Val Lys Asp Ser Ile Ala Glu Gly Arg Ile  
65 70 75 80  
Ser Leu Arg Leu Glu Asn Ile Thr Val Leu Asp Ala Gly Leu Tyr Gly  
85 90 95  
Cys Arg Ile Ser Ser Gln Ser Tyr Tyr Gln Lys Ala Ile Trp Glu Leu  
100 105 110  
Gln Val Ser Ala Leu Gly Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr  
115 120 125  
Val Asp Arg Asp Ile Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro  
130 135 140  
Arg Pro Thr Ala Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr  
145 150 155 160  
Asp Ser Arg Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile  
165 170 175  
Ser Leu Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg  
180 185 190  
His Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp  
195 200 205  
Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val  
210 215 220